1. (ORIGINAL) A computer-implement method for generating a document editor, comprising:

(a) generating one or more class specifications in the computer from a schema for the document, wherein the class specifications identify user interface components of the editor corresponding to entities defined in the schema; and

(b) instantiating one or more objects in the computer from the class specifications to invoke the editor.

2. (ORIGINAL) The method of claim 1 above, wherein the documents are eXtensible Markup Language (XML) documents and the schemas are XML schemas.

3. (ORIGINAL) The method of claim 2 above, wherein the schemas are selected from a group including Document Type Definition (DTD) schemas, Document Content Definition (DCD) schemas, and XSchema schemas.

4. (ORIGINAL) The method of claim 1 above, wherein the class specifications comprise Java class specifications.

5. (ORIGINAL) The method of claim 1 above, wherein the generating step further comprises converting an entity defined in the schema into the class specification.

6. (ORIGINAL) The method of claim 1 above, wherein the generating step further comprises the step of generating the class specifications in the computer from the schemas and one or more optional customization specifications.

7. (ORIGINAL) The method of claim 6 above, wherein the optional customization specifications define what class names to generate for each entity defined in the schema.

8. (ORIGINAL) The method of claim 1 above, wherein the class specifications include one or more specifications selected from a group comprising (1) a visual editor class specification, (2) a content implementation class specification, and a handler class specification.

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9. (ORIGINAL) The method of claim 1 above, further comprising mapping the entities defined in the schema to components of the editor.

10. (ORIGINAL) The method of claim 1 above, wherein the entities are selected from a group comprising elements and attributes of elements.

11. (ORIGINAL) The method of claim 10 above, wherein the attribute has a declaration selected from a group comprising mandatory, optional, and fixed value.

12. (ORIGINAL) The method of claim 11 above, further comprising accepting user input for attributes having a mandatory declaration.

13. (ORIGINAL) The method of claim 11 above, further comprising accepting user input for attributes having an optional declaration.

14. (ORIGINAL) The method of claim 11 above, further comprising entering values from the schema for attributes having a fixed value declaration.

15. (ORIGINAL) The method of claim 10 above, further comprising validating values entered for the attribute.

16. (ORIGINAL) The method of claim 1 above, wherein the class specifications include at least one function for validating at least one entity defined in the schema.

17. (ORIGINAL) The method of claim 1 above, wherein the generating step further comprises the step of generating the class specifications from a regular expression language comprising one or more declarations of elements enclosed within an element.

18. (ORIGINAL) The method of claim 17 above, wherein the regular expression language includes one or more regular expression operators selected from a group comprising:

(1) a "zero or more" operator,

(2) a "one or more" operator,

(3) a "one or the other" operator,

(4) a "one followed by the other" operator,

(5) a "zero or one" operator,

(6) a "grouping" operator, and

(7) an "any" operator.

19. (ORIGINAL) The method of claim 18 above, wherein the class specifications define one or more widgets that are associated with each of the operators.

20. (ORIGINAL) The method of claim 1 above, wherein the class specifications define at least one widget associated with an entity in the schema.

21. (ORIGINAL) The method of claim 1 above, further comprising identifying specific widget implementations for use with the editor.

22. (ORIGINAL) The method of claim 1 above, further comprising customizing the editor for use with different regular expression operators.

23. (ORIGINAL) The method of claim 1 above, further comprising attempting to solve correctness, optimization, or aesthetics related issues when generating the visual editor from the schema.

24. (ORIGINAL) A computer-implemented apparatus for generating a document editor, comprising:

(a) a computer; and

(b) an editor maker, executed by the computer, for generating one or more class specifications in the computer from a schema for the document, wherein the class specifications identify user interface components of the editor corresponding to entities defined in the schema, and for instantiating one or more objects in the computer from the class specifications to invoke the editor.

25. (ORIGINAL) The apparatus of claim 24 above, wherein the documents are eXtensible Markup Language (XML) documents and the schemas are XML schemas.

26. (ORIGINAL) The apparatus of claim 25 above, wherein the schemas are selected from a group including Document Type Definition (DTD) schemas, Document Content Definition (DCD) schemas, and XSchema schemas.

27. (ORIGINAL) The apparatus of claim 24 above, wherein the class specifications comprise Java class specifications.

28. (ORIGINAL) The apparatus of claim 24 above, wherein the means for generating further comprises means for converting an entity defined in the schema into the class specification.

29. (ORIGINAL) The apparatus of claim 24 above, wherein the means for generating further comprises means for generating the class specifications in the computer from the schemas and one or more optional customization specifications.

30. (ORIGINAL) The apparatus of claim 29 above, wherein the optional customization specifications define what class names to generate for each entity defined in the schema.

31. (ORIGINAL) The apparatus of claim 24 above, wherein the class specifications include one or more specifications selected from a group comprising (1) a visual editor class specification, (2) a content implementation class specification, and a handler class specification.

32. (ORIGINAL) The apparatus of claim 24 above, further comprising means for mapping the entities defined in the schema to components of the editor.

33. (ORIGINAL) The apparatus of claim 24 above, wherein the entities are selected from a group comprising elements and attributes of elements.

34. (ORIGINAL) The apparatus of claim 33 above, wherein the attribute has a declaration selected from a group comprising mandatory, optional, and fixed value.

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35. (ORIGINAL) The apparatus of claim 34 above, further comprising means for accepting user input for attributes having a mandatory declaration.

36. (ORIGINAL) The apparatus of claim 34 above, further comprising means for accepting user input for attributes having an optional declaration.

37. (ORIGINAL) The apparatus of claim 34 above, further comprising means for entering values from the schema for attributes having a fixed value declaration.

38. (ORIGINAL) The apparatus of claim 33 above, further comprising means for validating values entered for the attribute.

39. (ORIGINAL) The apparatus of claim 24 above, wherein the class specifications include at least one function for validating at least one entity defined in the schema.

40. (ORIGINAL) The apparatus of claim 24 above, wherein the means for generating further comprises means for generating the class specifications from a regular expression language comprising one or more declarations of elements enclosed within an element.

41. (ORIGINAL) The apparatus of claim 40 above, wherein the regular expression language includes one or more regular expression operators selected from a group comprising:

(1) a "zero or more" operator,

(2) a "one or more" operator,

(3) a "one or the other" operator,

(4) a "one followed by the other" operator,

(5) a "zero or one" operator,

(6) a "grouping" operator, and

(7) an "any" operator.

42. (ORIGINAL) The apparatus of claim 41 above, wherein the class specifications define one or more widgets that are associated with each of the operators.

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43. (ORIGINAL) The apparatus of claim 24 above, wherein the class specifications define at least one widget associated with an entity in the schema.

44. (ORIGINAL) The apparatus of claim 24 above, further comprising means for identifying specific widget implementations for use with the editor.

45. (ORIGINAL) The apparatus of claim 24 above, further comprising means for customizing the editor for use with different regular expression operators.

46. (ORIGINAL) The apparatus of claim 24 above, further comprising means for attempting to solve correctness, optimization, or aesthetics related issues when generating the visual editor from the schema.

47. (ORIGINAL) An article of manufacture embodying logic for performing a method for generating a document editor for use in an object-oriented computer system, the method comprising the steps of:

(a) generating one or more class specifications from a schema for the document, wherein the class specifications identify user interface components of the editor corresponding to entities defined in the schema; and

(b) instantiating one or more objects from the class specifications to invoke the editor.

48. (ORIGINAL) The method of claim 47 above, wherein the documents are eXtensible Markup Language (XML) documents and the schemas are XML schemas.

49. (ORIGINAL) The method of claim 48 above, wherein the schemas are selected from a group including Document Type Definition (DTD) schemas, Document Content Definition (DCD) schemas, and XSchema schemas.

50. (ORIGINAL) The method of claim 47 above, wherein the class specifications comprise Java class specifications.

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51. (ORIGINAL) The method of claim 47 above, wherein the generating step further comprises converting an entity defined in the schema into the class specification.

52. (ORIGINAL) The method of claim 47 above, wherein the generating step further comprises the step of generating the class specifications in the computer from the schemas and one or more optional customization specifications.

53. (ORIGINAL) The method of claim 52 above, wherein the optional customization specifications define what class names to generate for each entity defined in the schema.

54. (ORIGINAL) The method of claim 47 above, wherein the class specifications include one or more specifications selected from a group comprising (1) a visual editor class specification, (2) a content implementation class specification, and a handler class specification.

55. (ORIGINAL) The method of claim 47 above, further comprising mapping the entities defined in the schema to components of the editor.

56. (ORIGINAL) The method of claim 47 above, wherein the entities are selected from a group comprising elements and attributes of elements.

57. (ORIGINAL) The method of claim 56 above, wherein the attribute has a declaration selected from a group comprising mandatory, optional, and fixed value.

58. (ORIGINAL) The method of claim 57 above, further comprising accepting user input for attributes having a mandatory declaration.

59. (ORIGINAL) The method of claim 57 above, further comprising accepting user input for attributes having an optional declaration.

60. (ORIGINAL) The method of claim 57 above, further comprising entering values from the schema for attributes having a fixed value declaration.

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61. (ORIGINAL) The method of claim 56 above, further comprising validating values entered for the attribute.

62. (ORIGINAL) The method of claim 47 above, wherein the class specifications include at least one function for validating at least one entity defined in the schema.

63. (ORIGINAL) The method of claim 47 above, wherein the generating step further comprises the step of generating the class specifications from a regular expression language comprising one or more declarations of elements enclosed within an element.

64. (ORIGINAL) The method of claim 63 above, wherein the regular expression language includes one or more regular expression operators selected from a group comprising:

(1) a "zero or more" operator,
(2) a "one or more" operator,
(3) a "one or the other" operator,
(4) a "one followed by the other" operator,
(5) a "zero or one" operator,
(6) a "grouping" operator, and
(7) an "any" operator.

65. (ORIGINAL) The method of claim 64 above, wherein the class specifications define one or more widgets that are associated with each of the operators.

66. (ORIGINAL) The method of claim 47 above, wherein the class specifications define at least one widget associated with an entity in the schema.

67. (ORIGINAL) The method of claim 47 above, further comprising identifying specific widget implementations for use with the editor.

68. (ORIGINAL) The method of claim 47 above, further comprising customizing the editor for use with different regular expression operators.

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69. (ORIGINAL) The method of claim 47 above, further comprising attempting to solve correctness, optimization, or aesthetics related issues when generating the visual editor from the schema.

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